DOCUMENT RESUME

ED 179 694 CE 021 805

AUTHOR Hudson, William E.
TITLE Inventory and Analysis of Professional Tasks Engaged in by Teachers of Vocational Agriculture in the Secondary Schools of New Mexico. A Summary Report of Research.
INSTITUTION Texas A and M Univ., College Station. Dept. of Agricultural Education.
PUB DATE Dec 78
NOTE 44p.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Comparative Analysis; *Job Analysis; *Occupational Information; Secondary Education; *Task Analysis; Task Performance; Teacher Characteristics; *Vocational Agriculture Teachers
IDENTIFIERS *New Mexico

ABSTRACT

A study was conducted to develop job descriptions based on an analysis of time spent on tasks and duties performed by vocational agriculture teachers within the public secondary schools in New Mexico. Fifty vocational agriculture teachers who had taught vocational agriculture for at least one year and who were teaching during the 1976-77 school year returned task inventories sent out. The findings showed that, although differences in relative time spent on the 110 tasks did appear, the differences were not large enough to constitute different job types for those teachers involved. However, it was found that the relative time spent on tasks differentiated those teachers who were identified as superior among all others at the duty level. All 110 tasks inventoried were performed by at least one New Mexico vocational agriculture teacher. (LRA)

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A SUMMARY REPORT OF RESEARCH

INVENTORY AND ANALYSIS OF PROFESSIONAL TASKS ENGAGED IN BY TEACHERS OF VOCATIONAL AGRICULTURE IN THE SECONDARY SCHOOLS OF NEW MEXICO

by

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FORWARD

Too often people in a profession forget that over a period of time both the tasks they perform in their job and the amount of time they spend on those tasks may change. Also, different groups of people associated either directly or indirectly with a profession have differing perceptions about what people in the profession actually do. This is true of teachers of vocational agriculture also.

However, current information about the ways teachers use their time is invaluable in counselling prospective teachers and in developing curricular content for teacher education programs. Consequently, William E. Hudson, while serving on staff at New Mexico State University, undertook the timely research study summarized herein.

The findings, conclusions, implications, and recommendations reported by Dr. Hudson will be of interest to teacher educators preparing teachers of vocational agriculture through both pre-service and in-service programs. While the research reported was conducted in New Mexico, it is reasonable to expect that some of the findings on how teachers of vocational agriculture use their time may in fact be similar to those of teachers in other states while other findings may differ. Therefore, concerned and curious persons in other states may wish to replicate this study to determine if teachers in their states spend time on the job in a similar fashion carrying out similar professional tasks.

For additional information on the study, the reader may wish to contact Dr. William E. Hudson, FBPA Coordinator, Trumbull County JVS, 528 Educational Highway, Warren, Ohio 44483. His telephone number is (216) 847-0503.

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THE PROBLEM

The tasks performed by vocational agriculture teachers are often discussed by vocational agriculture teachers, school administrators, teacher educators, and state supervisors. Teachers consider the tasks they perform to be essential to conducting successful vocational agriculture programs. School administrators also have a concept of the tasks vocational agriculture teachers should perform to conduct a successful vocational agriculture department. Teacher educators and state supervisors, on the other hand, believe they know, manifested by teacher training curricula and teacher certification requirements, the tasks that should be performed by vocational agriculture teachers. The differing perceptions of the tasks the vocational agriculture teacher should perform cause frustration on the part of vocational agriculture teachers, school administrators, teacher educators, and state supervisors.

These differing perceptions of the tasks performed by vocational agriculture teachers flaunt one of the cornerstones of vocational education. Educators have long maintained that vocational education is interesting and meaningful when instruction is based on the needs of the student, job, and/or occupational cluster. Prior studies have identified tasks that should be or are performed by vocational educators. The scope of those studies has been so broad that tasks unique to various fields of vocational education are veiled.

Agricultural education programs have experienced an evolution since the passage of the Vocational Education Act of 1963. Programs in New Mexico have shared in this evolution as existing agricultural education departments have been improved and/or expanded, new programs established, and more numerous

Future Farmers of America (FFA) activities have created new dimensions of vocational agriculture teacher responsibilities.

A comprehensive analysis of the vocational agriculture teaching profession is needed in New Mexico. Several factors external to vocational agriculture influence the tasks performed and the relative amount of time spent on those tasks. There are six external factors which affect New Mexico vocational agriculture. First, the major portion of New Mexico is either semi-arid or arid thus directly affecting the kind of agriculture undertaken. Second, diverse ethnic groups play important roles in community and school life. Third, a tribal society reflecting different social values is part of many vocational agriculture departments. Fourth, great distances are involved which hamper or eliminate many FFA activities. Fifth, many schools are in isolated locations limiting social activities, thus creating hardships for many teachers' families. Finally, Craig (6, 7, 8) has shown that the teacher turnover rate in New Mexico has been twice the national average for the past several years.

Agricultural educators have long maintained that many tasks they perform are unique to vocational agriculture. An example of these unique tasks would be preparing students and livestock for judging contests and livestock shows. Not only are there singular task differences between other vocational education programs and vocational agriculture but vast differences lie within vocational agriculture itself.

Teachers must function in laboratory environments that range from a general vocational agriculture shop to the high specialized farm power and machinery shop. Equally diverse are the horticulture greenhouse laboratory and the school demonstration farm laboratory. Cooperative part-time training programs utilize the facilities of many agribusinesses for laboratory

purposes. Similarly, the production agriculture teacher may use livestock and facilities of a major livestock show to improve the livestock selection skills of his students. The staff of the New Mexico State University Department of Agricultural and Extension Education implies that there are unique tasks which must be performed by vocational horticulture teachers as evidenced by the differing curricular requirements for teacher certification in vocational horticulture and production agriculture.

The diversity of vocational agriculture, the uniqueness of New Mexico, and the evolution of vocational agriculture since the Vocational Education Act of 1963 bring into sharp focus the need to identify the professional tasks performed by vocational agriculture teachers and to determine the relative time spent on each task, thereby describing the various jobs that exist in vocational agriculture education at the secondary level. The job descriptions thus resulting could become one of many useful inputs for developing performance-based teacher education curricula in agricultural education, evaluating teacher certification requirements, and evaluating local vocational education programs.

Study Purposes

The primary purpose was to develop job descriptions through use of professional tasks and duties engaged in and the relative time spent on those professional tasks (Appendix A) and duties (Appendix B) by vocational agriculture teachers in the different vocational agriculture teaching positions existing within the public secondary schools in New Mexico. The secondary purpose was concerned with providing teacher educators a data baseline of background characteristics useful in planning future pre-service and in-service training programs and for future research efforts in agricultural education.

Study Objectives

The study objectives were designed to answer the explicit research question, "Do distinct job types exist for vocational agriculture teachers within the public secondary schools of New Mexico?" and thus accomplish the purpose of the study. The specific objectives used as guidelines to conduct the study were to:

1. Develop a professional task inventory for teaching vocational agricutlure within the public secondary schools of New Mexico.

2. Determine the relative time spent in each task engaged in by teachers of vocational agriculture teaching within the public secondary schools of New Mexico, thereby creating a job description for those teachers.

3. Derive job descriptions relative to departmental leadership responsibility and agricultural subject matter teaching responsibility from the previously determined task inventories for teaching vocational agriculture within the public secondary schools of New Mexico, thereby creating a job description for those responsibilities.

4. Describe teachers of vocational agriculture with respect to selected background characteristics such as: sex, age, years in teaching, length of teaching contract, undergraduate college major, and size of community in which teaching.

Study Methodology

The study methodology was based upon a review of related literature, the researcher's experience and a theoretical base that considered education, agriculture, and differences among ethnic groups. The study data were gathered during the summer and early fall of 1977 through use of a mailed task inventory developed by the researcher following procedures

described by Melching and Borcher (14). Prior to mailing the task inventory to the sixty-four members of the study population, the task inventory was prepared, revised, edited, and pilot tested.

Fifty vocational agriculture teachers who had taught vocational agriculture in New Mexico for at least one year and who were teaching during the 1976-77 school year returned task inventories used for analysis purposes. The data were analyzed by an IBM 370/158 computer through an agreement reached with the academic Computing Center at Southern Illinois University at Carbondale. The analyses consisted of one-way analysis of variance of the relative time spent on tasks and duties by teachers grouped according to: (1) three departmental leadership responsibilities, (2) four agricultural subject matter teaching responsibilities, and (3) four crop reporting districts. The t-test of significance was used to determine significant differences in relative time spent on task and duties by superior teachers versus all other teachers. Six superior teachers were identified through a telephone interview with knowledgeable New Mexico agricultural educators who considered classroom, laboratory, and FFA activities, state reports, and teacher professionalism. Summary statistics were calculated for selected background characteristics.

Findings and Attendant Implications, Conclusion and Recommendations Related to the Primary Purpose

The analysis of data showed that although differences in relative time spent on tasks (Appendix A) did appear, they were not large enough to constitute a different job type for those teachers involved. It was noted that there was a difference in the relative time spent by superior teachers versus all other teachers at the duty level (Appendix B). The difference was of such magnitude so as to constitute a different way of doing what has been

determined to be the same job at the task level. Tasks are discrete work units performed by an individual within a limited period of time. Duties are large segments of work composed of several related tasks performed by an individual.

Number of Tasks Performed

Findings. All 110 tasks were performed by at least one New Mexico vocational agriculture teacher. The mean number of tasks performed by all New Mexico vocational agriculture teachers was 87.5. The range in the number of tasks performed was 53 to 109.

Conclusion. The task list combined with appropriate relative time spent figures provides a meaningful task level job description for New Mexico vocational agriculture teachers.

Implication. The job description can serve as a tool in describing vocational agriculture teaching to potential teachers.

Recommendation. It is recommended that vocational agriculture teacher trainers and state supervisors of vocational agriculture use the task list to evaluate the emphasis on and content of pre-service and in-service teacher training programs.

Leadership Role - Tasks

Finding. Teachers, when grouped according to leadership roles, were found to spend a significantly different amount of relative time on six tasks.

Conclusions. Much of the difference in the amount of relative time spent by each group may be due to the fact that no clear distinction was made between head teacher and lead teacher on the task inventory. Rather

than three divisions for leadership roles, two might have been more appropriate, with the lead teacher category excluded.

Although there were six tasks identified as having significantly different amounts of relative time spent on them, it was the researcher's judgment that 6 out of 110 were not enough to say that the jobs as head teacher, lead teacher, and second, third or fourth teacher were different.

Subject Matter Responsibilities - Tasks

Finding. When grouped according to subject matter responsibilities, teachers were found to spend a significantly different amount of time on eight tasks.

Conclusions. The task statements were such that there was expected to be a difference in relative amount of time spent on tasks which emphasized livestock. However, the difference found was due to horticulture and agriculture mechanics teachers performing the task, "demonstrate procedures to prepare livestock projects for show." It is generally accepted that production agriculture teachers are the only teachers involved with livestock. The data do not hold this to be true. In this researcher's judgment the differences in relative amounts of time spent on tasks was not of sufficient magnitude to say that the jobs were different.

Implication. The role of vocational agriculture teachers may not be a stereotyped as some would think.

Recommendation. Further research needs to be conducted to examine the degree to which vocational agriculture teachers engage in activities which cross subject matter lines as they conduct a total program of vocational agriculture.

Superior Teachers Versus All Other Teachers - Tasks

Finding. Superior vocational agriculture teachers as compared to all other vocational agriculture teachers were found to spend significantly different amounts of time on 9 of the 110 tasks distributed among five duty areas.

Conclusion. The differences in relative time spent on tasks is such that in the researcher's judgment there is no difference between the groups at the task level considering the number of tasks involved.

Crop Reporting District - Tasks

Finding. When vocational agriculture teachers were grouped according to selected areas of the state, significant differences were found for the relative time spent on nine tasks.

Conclusion. The area of the state does make a difference in the amount of time spent on tasks. It is, however, the judgment of this researcher that the difference is not of such magnitude as to consider the jobs being different. Five of the significant differences were found in the Southwest Crop Reporting District which was composed of three teachers. It was this researcher's judgment that one of the three teachers could have made responses which drastically affected the mean for the CRD thus possibly creating a significant difference when comparing all CRDs.

Leadership Role - Duty

Finding. When grouped according to leadership roles, teachers were found to spend significantly different amounts of time on two duties.

Conclusion. Due to the fact that the terms, "head teacher" and "lead teacher", were not defined in the task inventory teachers could have been

misled in making their response. Consequently, in this researcher's judgment a conclusion cannot be drawn concerning the differences in relative time spent on those two duties.

Subject Matter Responsibilities and Crop Reporting Districts - Duty

Finding. No significant differences in the relative amount of time spent on duties were found when teachers were compared by subject matter responsibility or crop reporting district.

Conclusion. At the duty level all teaching positions are similar.

Superior Teachers Versus All Other Teachers - Duty

Finding. Superior teachers were found to spend significantly different amounts of relative time on four duties when compared with all other teachers.

Conclusion. Although there are judged to be no differences in the jobs of superior vocational agriculture teachers versus all other teachers at the task level, there is a significant difference at the duty level. This leads the researcher to conclude that the cumulative effects of differences at the task level create significant differences in relative time spent at the duty level.

Implications. Superior teachers carry out what has been determined to be the same job in a different way. Those teachers spend more relative time on those duties which provide opportunities for high degrees of personal and FFA chapter visibility at the local and state level. The implied questions are: "Does a high degree of personal and FFA chapter visibility insure one being considered as a superior teacher?" or "Does a superior teacher achieve a high degree of personal and FFA chapter visibility?"

Recommendations. Further research is needed to compare superior teachers

with all other teachers in order to identify other variables which contribute to a teacher being considered superior. Further, it is recommended that research be conducted to clearly define superior vocational agriculture teaching.

Findings and Attendant Conclusions, Implications and Recommendations Related to the Secondary Purpose

Leadership Role - Background Characteristics

Findings. There were forty-two head teachers, three lead teachers, and five teachers who were the second, third or fourth teacher in a multiple teacher department.

Conclusion. The majority of vocational agriculture departments in New Mexico are single teacher units.

Recommendations. The pre-service teacher training program should emphasize those tasks which are necessary for single teacher departments. Tasks, skills, and abilities desirable in multiple teacher departments should be included in in-service educational activities.

Subject Matter Responsibilities - Background Characteristics

Finding. There were thirty-eight production agriculture teachers, five horticulture teachers, four agriculture mechanics teachers, and three other teachers identified.

Conclusion. There has been limited development of specialized programs in vocational agriculture such as forestry and food processing.

Implication. There is little emphasis placed upon non-traditional vocational agriculture programs.

Recommendation. A concentrated effort should be made to expand specialized vocational agriculture offerings in school districts with a

demonstrated need and sufficient size to support such programs.

Counties and Crop Reporting District - Background Characteristics

Findings. Teachers from twenty-two New Mexico counties were located in four crop reporting districts (CRD). Three teachers were found in the Southwest CRD while sixteen, seventeen, and fourteen were found in the Northwest CRD, Northeast CRD and Southeast CRD respectively.

Conclusion. Experienced agriculture teachers are not distributed evenly across the state as evidenced by the fact that the Southwest CRD does not have as many experienced vocational agriculture teachers as the other CRDs.

Teacher Age and Years Taught in New Mexico - Background Characteristics

Findings. The mean vocational agriculture teacher age was 33.96 years, the median vocational agriculture teacher age was 29.5 years, and the mode was 28 years. Those same vocational agriculture teachers had as a mean 8.5 years of teaching, a median of 5.17 years and a mode of 2 years.

Conclusions. The vocational agriculture teachers of New Mexico are young and do not remain in teaching for long periods of time. This data supports Craig's (6, 7, 8) findings concerning the high rate of teacher turnover in New Mexico.

Implication. There are external and/or internal factors affecting the vocational agriculture teaching profession that contribute to the high rate of teacher turnover in New Mexico.

Recommendation. Research needs to be conducted to identify factors which contribute to the high rate of teacher turnover and to determine whether or not a high rate of teacher turnover in New Mexico is desirable or undesirable.

Length of Teaching Contract - Background Characteristics

Findings. The mean length of a vocational agriculture teaching contract is 11.04 months, the median is 11.13 months, and the mode is 11 months.

Conclusions. Most vocational agriculture teaching contracts in New Mexico are extended contracts of eleven or twelve months duration.

Undergraduate Major - Background Characteristics

Findings. Many teachers earn degrees in fields other than agricultural education; however, most vocational agriculture teachers earn their undergraduate degree in agricultural education.

Conclusion. Many teachers wish to specialize in a specific area of agriculture while meeting requirements for vocational agriculture teacher certification.

Implication. Undergraduate majors in fields other than agricultural education play an important role in supplying the vocational agriculture teachers needed in New Mexico.

Masters Degree - Background Characteristics

Findings. Twenty-eight percent of vocational agriculture teachers have earned a masters degree. The rate of teacher turnover was twice the national average.

Recommendation. It is recommended that the reasons for the high rate of teacher turnover be identified and that steps be taken to reduce the turnover rate thereby increasing the number of teachers available to earn the masters degree while teaching.

Other Subjects Taught - Background Characteristics

Finding. Eighteen vocational agriculture teachers, or 36 percent are required to teach other subjects in addition to vocational agriculture.

Implication. Many schools may need to utilize vocational agriculture teachers in a dual role to meet community needs.

Town and City Population - Background Characteristics

Findings. The teachers taught vocational agriculture in towns and cities whose population ranged from 233 to 243,751. The mean population for the towns and cities was 22,206 while the median population was 1,574.

Conclusion. Most teachers teach in small towns which may be far from large metropolitan centers.

Implication. Resources may be limited in many of these small communities. Consequently, an additional implication arises that teacher training programs should include thorough preparation on how to improvise in the possible absence of adequate teaching resources.

Findings and Attendant Conclusions, Implications and Recommendations Drawn From Study Data and Experiences Gained From Conducting the Study

Teaching Methods

Finding. A range of 1.27 to 0.19 percent relative time spent existed for the thirty tasks within the duty area of instructional execution.

Conclusion. Each vocational agriculture teacher may tend to concentrate teaching efforts using a limited number of teaching methods.

Implications. Vocational and agriculture teachers may use a limited number of teaching methods because (1) they are uncomfortable using some

methods, (2) they may not have been instructed in the proper use of those teaching methods they do not use and/or (3) the school may not possess the hardware and/or software needed for particular instructional methods. Additionally an implication exists that vocational agriculture teacher preparation programs should include greater emphasis on instruction in and use of all methods of teaching. Possibly a further implication exists that local school districts should be encouraged to purchase the necessary hardware and/or software to facilitate classroom and laboratory instructional activities.

School-Community Relations

Finding. The greatest range of 1.12 mean percent relative time spent on tasks within a duty was for the school-community relations duty.

Implication. Based upon the above finding and the researcher's experience, the implication arises that teachers may concentrate upon tasks which provide a high degree of personal and FFA chapter visibility and can be accomplished in the local town or city without an extensive time and travel commitment.

Guidance

Finding. All teachers spent the least total mean percent relative time on the five tasks which comprise the guidance duty.

Conclusion. Vocational agriculture teachers in New Mexico do not perceive guidance activities or tasks as important a part of their job as they perceive other tasks to be.

Future Task Analysis Studies

In light of the researcher's experience in conducting this research, the following recommendations are offered to those who undertake similar studies:

1. The task inventory should be administered in a large group session or several smaller group sessions to facilitate rapid data collection with a minimum of time spent between the completion of the first and last task inventories.

2. The task list should be more complete, breaking large tasks into several smaller tasks. The greater number of tasks would improve the capability to identify distinct job types. The researcher recommends that the 384 performance objectives, identified by Cotrell, Chase, and Molnar (5), serve as the base from which the task inventory should be developed but that only tasks which are definitely time ratable be examined. The researcher concedes that a large number of tasks will increase the complexity of decision-making on the part of the respondents.

3. Future task analysis research efforts should utilize the Comprehensive Data Analysis Programs (CODAP) developed by the Air Force Human Resources Laboratory to analyze the data gathered. The CODAP programs contain many sophiticated analysis routines developed specifically for occupational analysis which provide for much more thorough analysis than was possible in this study.

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APPENDIX A

MEAN PERCENT RELATIVE TIME SPENT ON TASKS BY 50 NEW MEXICO VOCATIONAL AGRICULTURE TEACHERS IN 1977 GROUPED ACCORDING TO LEADERSHIP RESPONSIBILITY, SUBJECT MATTER RESPONSIBILITY, SUPERIOR TEACHERS VERSUS ALL OTHER TEACHERS, AND CROP REPORTING DISTRICT

TABLE 1

MEAN PERCENT RELATIVE TIME SPENT ON TASKS BY 50 NEW MEXICO VOCATIONAL AGRICULTURE TEACHERS IN 1977 GROUPED ACCORDING TO LEADERSHIP RESPONSIBILITY, SUBJECT MATTER RESPONSIBILITY, SUPERIOR TEACHERS VERSUS ALL OTHER TEACHERS, AND CROP REPORTING DISTRICT

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
H-9	Supervise FFA Activities	1.45	1.48	1.35	1.26	1.45	1.44	1.47	1.47	1.59	1.43	1.44	1.38	1.82	1.46
H-6	Travel With Students to Participate in FFA Contests and Activities	1.38	1.38	1.35	1.37	1.41*	1.60*	1.42*	0.59*	1.64	1.34	1.24	1.41	1.64	1.45
H-8	Guide Student Participation in FFA	1.35	1.36	1.35	1.31	1.34	1.49	1.48	1.12	1.54	1.32	1.27	1.36	1.54	1.40
I-4	Serve the School and Community	1.35	1.38	1.40	1.06	1.34	1.36	1.44	1.35	1.39	1.35	1.39	1.40	1.64	1.18
H-2	Maintain a Local FFA Chapter	1.34	1.35	0.90	1.46	1.31	1.49	1.40	1.35	1.59	1.30	1.18	1.33	1.73	1.44
H-4	Prepare FFA Members for Judging Contests	1.33	1.36	1.40	1.05	1.34	1.61	1.06	1.18	1.52	1.30	1.35	1.18	1.65	1.42
D-5	Determine Student Grades	1.31	1.31	1.15	1.37	1.30	1.37	1.37	1.18	1.20	1.32	1.26	1.35	1.38	1.29
H-3	Prepare FFA Members for Leadership Roles	1.31	1.30	1.26	1.46	1.35	1.08	1.34	1.12	1.55	1.28	1.22	1.38	1.46	1.29
C-7	Direct Student Laboratory Experience	1.27	1.25	1.44	1.37	1.25	1.59	1.18	1.19	1.35	1.26	1.24	1.24	1.56	1.29
C-12	Employ Oral Questioning Techniques	1.27	1.25	1.51	1.21	1.29	1.18	1.33	1.01	1.14	1.28	1.34	1.30	0.63	1.27
G-8	Work With Members of the Community	1.27	1.29	1.36	1.02	1.27	1.07	1.64	1.12	1.28	1.27	1.23	1.33	1.74	1.13
E-5	Provide for Student Safety	1.25	1.31*	0.56*	1.21*	1.25	1.12	1.51	1.19	1.04*	1.28*	1.16	1.27	1.35	1.31
C-30	Present Information With Chalkboard and Flip Chart	1.23	1.24	1.10	1.20	1.20	1.42	1.47	0.95	0.85*	1.28*	1.21	1.11	1.82	1.27
E-11	Repair Vocational Agriculture Department Tools and Equipment	1.23	1.25	0.59	1.41	1.20	1.32	1.76	0.71	1.01	1.26	1.16	1.40	0.65	1.22

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
A-13	Confer and Coordinate With School Administrators	1.21	1.25	0.84	1.12	1.22	1.40	1.01	1.06	1.10	1.23	1.17	1.18	1.46	1.24
C-10	Introduce a Lesson	1.20	1.20	1.51	1.07	1.21	1.36	1.09	0.94	1.05	1.22	1.20	1.14	1.48	1.21
J-5	Supervise SOEP Projects	1.20	1.20	1.01	1.36	1.21	1.04	1.40	1.12	1.60*	1.15*	1.15	1.20	1.44	1.22
E-10	Inventory Vocational Agriculture Department Equipment and Supplies	1.19	1.20	1.22	1.10	1.21	1.17	1.44	0.67	0.97	1.22	1.18	1.27	1.12	1.12
H-7	Assist the Chapter in Developing and Financing a Yearly Program of Activities	1.19	1.16	1.15	1.46	1.18	1.54	1.12	0.77	1.46	1.15	1.05	1.30	0.93	1.25
D-4	Assess Student Performances: Skills	1.18	1.18	0.84	1.41	1.13	1.17	1.71	1.06	1.10	1.19	1.17	1.14	1.36	1.20
B-1	Determine Needs and Interests of Students	1.17	1.17	1.22	1.11	1.14	1.28	1.35	1.19	1.03	1.19	1.16	1.26	0.73	1.17
B-5	Select Student Instructional Materials	1.17	1.16	1.22	1.22	1.17	1.22	1.21	1.12	1.14	1.18	1.15	1.15	1.37	1.18
E-12	Order Equipment and Supplies	1.17	1.23	0.59	1.06	1.16	1.20	1.53	0.89	1.00	1.20	1.22	1.17	1.20	1.12
J-7	Supervise FFA Members at Livestock Shows and/or Project Shows	1.16	1.16	1.09	1.21	1.14	1.25	1.36	0.96	1.57	1.11	1.08	1.26	0.90	1.19
B-3	Develop Units of Instruction	1.15	1.14	1.28	1.21	1.15	1.33	1.19	0.77	1.14	1.15	1.09	1.14	1.48	1.16
C-11	Summarize a Lesson	1.15	1.12	1.51	1.16	1.13	1.17	1.34	1.00	1.08	1.16	1.14	1.06	1.38	1.21
C-25	Present Information with Filmstrips and Slides	1.15	1.12	1.22	1.36	1.14	1.38	1.09	0.97	1.14	1.15	1.20	1.05	1.45	1.15
J-3	Assist Students in Selecting SOEP Projects	1.15	1.15	0.84	1.36	1.14	1.06	1.38	1.19	1.32	1.13	1.07	1.22	1.09	1.17

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South east
B-4	Develop Lesson Plans	1.14	1.12	1.22	1.27	1.11	1.28	1.12	1.24	1.02	1.15	1.18	1.06	1.29	1.15
A-8	Develop a Vocational Agriculture Course of Study	1.13	1.15	1.22	0.96	1.15	1.03	1.06	1.24	1.22	1.12	1.15	1.23	1.47	0.93
B-6	Prepare Teacher-made Instructional Materials	1.13	1.10	1.35	1.22	1.12	1.24	1.31	0.77	1.21	1.12	1.11*	1.06*	1.83*	1.09*
E-7	Assist Students in Developing Self	1.13	1.12	1.35	1.11	1.09	1.18	1.45	1.12	0.82	1.17	1.27	1.11	1.55	0.90
J-1	Explain the Need for SOEP	1.13	1.11	1.06	1.36	1.16	0.67	1.41	1.12	1.26	1.11	1.04	1.21	1.35	1.08
C-1	Direct Field Trips	1.12	1.13	0.82	1.21	1.08	1.49	0.96	1.18	1.02	1.13	1.14	1.09	1.19	1.10
I-5	Obtain a Suitable Teaching Position	1.12	1.19	0.72	0.71	1.11	1.15	1.09	1.18	1.26	1.10	1.07	1.20	0.90	1.12
J-2	Explain Merits of Various SOEP Projects	1.12	1.12	0.70	1.36	1.12	1.06	1.05	1.24	1.26	1.10	1.04	1.11	1.35	1.17
C-19	Individualize Instruction	1.09	1.05	1.58	1.12	1.02	1.37	1.30	1.24	1.13	1.09	1.32	0.89	1.02	1.09
F-5	Assist Vocational Agriculture Students in Applying for Employment or Further Education	1.08	1.04	1.28	1.26	1.04	1.24	1.16	1.19	0.95	1.10	1.15	1.00	1.28	1.05
I-1	Keep Up-to-Date Professionally	1.08	1.08	1.15	1.06	1.09	1.12	0.95	1.06	1.07	1.08	0.98	1.13	0.99	1.16
E-3	Arrange for Vocational Agriculture Facility Improvement	1.07	1.12	0.86	0.79	1.18*	1.04*	0.29*	0.77*	0.95	1.09	0.80	1.17	0.94	1.28
J-4	Travel to Locate Satisfactory SOEP Projects	1.07	1.08	0.41	1.36	1.13	1.18	0.34	1.12	1.35	1.03	0.95	1.01	1.26	1.25
A-6	Develop Vocational Agriculture Program Goals and Objectives	1.06	1.05	1.03	1.11	1.03	1.16	1.09	1.24	0.96	1.07	1.10	1.09	1.19	0.94
H-5	Prepare FFA Members for Livestock Shows	1.06	1.11	0.72	0.87	1.18	0.56	0.89	0.71	1.52	1.00	0.80	1.17	1.25	1.20

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
A-11	Evaluate Your Vocational Agriculture Program	1.05	1.01	1.25	1.21	1.00	1.04	1.34	1.24	0.72	1.09	1.08	1.03	1.17	1.01
C-14	Provide Instruction for Slower Learners	1.05	1.02	1.58	0.96	1.06	1.13	0.68	1.18	0.93	1.06	1.11	0.97	1.02	1.06
D-2	Assess Student Performances: Knowledge	1.05	1.05	0.77	1.26	1.02	1.17	1.14	1.19	1.08	1.05	1.10*	1.14*	0.35*	1.05*
G-11	Confer With School Counselor	1.05	1.03	1.37	1.02	1.02	1.20	1.02	1.24	0.73	1.09	1.27*	0.82*	1.56*	0.96*
C-13	Employ Reinforcement Techniques	1.04	0.99	1.58	1.16	0.98	1.36	1.21	1.12	0.99	1.05	1.14	1.09	0.81	0.93
C-24	Present Information With Overhead and Opaque Materials	1.03	0.96	1.35	1.42	1.02	1.37	0.75	0.89	1.02	1.03	0.97	0.96	1.28	1.11
E-6	Provide for Student First Aid Needs	1.03	1.12**	0.14**	0.82**	1.06	0.78	1.13	0.96	0.86	1.06	0.85	1.05	0.99	1.23
F-4	Provide Information on Educational and Career Opportunities	1.03	0.98	1.28	1.31	1.01	1.33	1.02	0.89	0.89	1.05	1.13	0.95	1.20	0.99
C-17	Demonstrate a Manipulative Skill	1.01	0.95	1.44	1.21	0.95	1.53	0.79	1.12	1.01	1.01	1.38*	0.80*	0.82*	0.88*
C-18	Develop a Concept or Principle	1.00	1.01	0.77	1.07	1.02	0.82	1.06	1.00	0.80	1.03	1.01	0.87	0.84	1.18
A-14	Complete Required Reports	0.99	0.99	1.00	1.02	1.07	0.71	0.68	0.94	1.21	0.96	0.98	0.98	1.37	0.99
D-6	Evaluate Your Instructional Effectiveness	0.99	0.95	1.15	1.20	0.96	1.05	0.95	1.24	0.97	0.99	1.09	0.96	1.08	0.88
G-14	Take Hall or Playground Duty	0.98	1.00	1.32	0.59	0.98	1.32	0.92	0.45	0.42*	1.05*	1.03	0.76	1.73	1.03
G-9	Work With State and Local Educators	0.97	0.96	1.32	0.86	1.00	1.08	0.77	0.71	0.94	0.97	1.08	0.83	0.56	1.10
I-3	Develop an Active Personal Philosophy of Education	0.97	0.95	1.35	0.91	0.96	1.13	0.75	1.12	0.75	1.00	0.95	1.07	0.63	0.93

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
D-3	Assess Student Performances: Attitudes	0.96	0.94	0.90	1.22	0.94	0.68	1.35	1.24	0.71	1.00	1.14	1.02	0.52	0.79
F-2	Gather Data on Vocational Agriculture Students Through Personal Contacts	0.96	0.91	1.35	1.17	0.87	1.13	1.50	1.13	0.88	0.97	1.09	0.95	0.56	0.91
C-4	Direct Students in Instructing Other Students	0.95	0.94	1.21	0.92	0.97	1.00	0.76	0.84	0.79	0.97	0.88	0.95	1.10	1.00
E-4	Maintain a Filing System of Technical and Professional Materials	0.95	0.96	0.41	1.16	0.96	1.01	0.96	0.65	0.75	0.98	0.84	1.01	1.01	0.99
C-6	Guide Student Study	0.91	0.88	1.26	0.91	0.94*	1.12*	0.17*	1.12*	1.15*	0.87*	0.90	0.67	1.21	1.15
H-1	Develop a Personal Philosophy Concerning FFA	0.91	0.85	1.35	1.17	0.95	0.76	0.61	1.00	0.96	0.90	1.07*	0.83*	0.09*	1.00*
J-6	Demonstrate Procedures to Prepare Livestock Projects for Show	0.90	0.93	0.34	0.96	1.03*	0.29*	0.60*	0.56*	1.37*	0.83*	0.65	1.05	0.81	1.02
B-2	Develop Student Performance Objectives	0.89	0.86	1.22	1.01	0.82	1.23	0.88	1.24	0.67	0.92	0.96	0.91	0.62	0.86
C-8	Direct Students in Applying Problem-Solving Techniques	0.89	0.90	1.28	0.64	0.82	1.11	1.25	1.01	1.21	0.85	0.89	0.77	1.19	0.98
E-2	Manage Vocational Agriculture Budgeting and Reporting Responsibilities	0.89	1.03**	0.07**	0.23**	0.96	0.53	0.89	0.60	1.05	0.87	0.58*	1.01*	1.10*	1.05*
F-3	Use Conferences to Help Meet Vocational Agriculture Student Needs	0.89	0.86	0.90	1.12	0.91	0.92	0.48	1.12	1.08	0.86	0.92	0.80	0.52	1.05

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
C-9	Employ the Project Method in Classroom Teaching	0.88	0.87	1.37	0.74	0.85	1.30	0.56	1.02	0.98	0.87	0.96	0.94	0.35	0.84
C-26	Present Information With Films	0.88	0.88	0.76	0.97	0.91	1.13	0.43	0.73	0.86	0.88	1.05	0.82	1.18	0.70
E-1	Project Vocational Agriculture Instructional Resource Needs	0.87	0.87	0.90	0.84	0.81	1.07	1.09	0.97	0.64	0.90	0.82	0.77	0.45	1.15
C-16	Present an Illustrated Talk	0.86	0.87	0.77	0.81	0.90	0.66	0.62	1.00	0.66	0.89	1.00	0.75	0.74	0.85
C-15	Provide Instruction for More Capable Learners	0.83	0.81	0.77	1.07	0.87	0.57	0.63	1.07	0.72	0.84	0.92	0.75	1.02	0.78
A-9	Develop Long-Range Vocational Agriculture Program Plans	0.82	0.80	0.77	1.00	0.82	0.85	0.62	1.07	0.68	0.84	1.02	0.66	1.01	0.74
C-23	Present Information With Models, Real Objects and Flannel Boards	0.81	0.80	0.68	0.97	0.81	0.74	0.93	0.71	0.85	0.80	0.89	0.84	0.26	0.78
G-2	Give Presentations to Promote Vocational Agriculture	0.79	0.76	0.91	0.94	0.79	0.85	0.68	0.72	0.83	0.78	0.75	0.80	0.45	0.88
A-12	Prepare Vocational Agriculture Department Policies for School Administration and School Board Approval	0.78	0.88**	0.00**	0.48**	0.79	0.47	0.93	1.06	0.77	0.79	0.73	0.88	1.11	0.66
I-2	Serve the Vocational Agriculture Teaching Profession Through Professional Organizations	0.78	0.85*	0.00*	0.72*	0.82	0.49	0.79	0.77	1.29*	0.71*	0.34**	1.01**	0.83**	1.01**
C-22	Prepare Bulletin Boards and Exhibits	0.73	0.74	0.72	0.67	0.72	0.55	0.81	1.06	0.66	0.74	0.74	0.81	0.53	0.66
G-10	Obtain Feedback About Vocational Agriculture	0.73	0.76	0.70	0.53	0.73*	0.24*	1.27*	0.83*	0.85	0.72	0.70	0.84	0.35	0.73

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
G-12	Sponsor School Clubs Other Than FFA	0.73	0.75	0.98	0.48	0.66	1.10	0.92	0.83	0.37	0.78	0.81	0.77	1.13	0.52
G-4	Prepare Displays to Promote Vocational Agriculture	0.72	0.69	0.95	0.81	0.71	0.94	0.42	0.83	0.69	0.72	0.75	0.61	0.54	0.84
C-21	Use Subject Matter Experts to Present Information	0.69	0.64	1.15	0.82	0.64	0.87	0.95	0.67	0.55	0.71	0.69	0.69	0.63	0.70
A-5	Maintain a Vocational Agriculture Advisory Committee	0.68	0.71	0.27	0.61	0.70	0.54	0.65	0.61	0.76	0.67	0.68	0.78	0.38	0.61
C-2	Conduct Group Discussions, Panel Discussions, and Symposiums	0.67	0.65	0.61	0.87	0.61	0.74	0.91	1.06	0.82	0.65	0.75	0.65	0.09	0.74
D-1	Establish Student Performance Criteria	0.67	0.61	0.70	1.11	0.59	1.01	0.81	0.89	0.45	0.70	0.76	0.68	0.36	0.62
A-4	Organize a Vocational Agriculture Advisory Committee	0.66	0.69	0.27	0.61	0.66	0.48	0.80	0.67	0.73	0.65	0.65	0.86	0.56	0.45
A-10	Conduct a Vocational Agriculture Student Follow-Up Study	0.65	0.60	1.36	0.71	0.65	0.56	0.56	0.91	0.51	0.67	0.97*	0.47*	0.09*	0.63*
G-5	Prepare News Releases and Articles Concerning Vocational Agriculture	0.65	0.59**	1.54**	0.62**	0.70	0.49	0.50	0.44	0.74	0.64	0.67	0.59	0.26	0.78
G-13	Take Tickets at Ball Games	0.65	0.69	0.87	0.23	0.73	0.00	0.92	0.50	0.59	0.66	0.51	0.82	1.13	0.52
E-8	Organize the Vocational Agriculture Library	0.64	0.67	0.77	0.29	0.70	0.24	0.56	0.55	0.40	0.67	0.71	0.66	1.19	0.41
G-1	Develop a School-Community Relations Plan for Vocational Agriculture	0.61	0.65	0.42	0.41	0.68	0.18	0.48	0.62	0.67	0.60	0.55	0.71	0.65	0.55

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
E-9	Manage the Vocational Agriculture Library	0.57	0.59	0.77	0.29	0.62	0.24	0.48	0.54	0.37	0.60	0.53	0.70	0.64	0.44
G-7	Conduct a Vocational Agriculture Open House	0.57	0.52	0.86	0.82	0.50	0.93	0.63	0.72	0.27	0.61	0.71	0.50	0.47	0.50
C-3	Employ Brainstorming, Buzz Group, and Question Box Techniques	0.51	0.47	1.03	0.48	0.55	0.40	0.01	0.83	0.66	0.49	0.59	0.43	0.52	0.51
C-5	Employ Simulation Techniques	0.50	0.52	0.34	0.47	0.53*	0.18*	0.17*	1.12*	0.59	0.49	0.64	0.55	0.26	0.34
I-6	Supervise Student Teachers	0.43	0.41	0.53	0.49	0.44	0.72	0.00	0.36	1.08**	0.34**	0.36*	0.20*	0.35*	0.79*
F-1	Gather Data on Vocational Agriculture Students Using Formal Data-Collection Techniques	0.39	0.37	0.84	0.29	0.43	0.00	0.43	0.48	0.32	0.40	0.51	0.49	0.00	0.22
C-27	Present Information With Audio Recordings	0.38	0.38	0.34	0.44	0.40	0.25	0.23	0.56	0.74*	0.34*	0.35	0.43	0.26	0.40
A-7	Conduct an Occupational Analysis	0.35	0.38	0.27	0.18	0.37	0.00	0.50	0.49	0.46	0.34	0.29	0.48	0.17	0.31
G-6	Arrange for Television and Radio Programs Concerning Vocational Agriculture	0.33	0.36	0.00	0.29	0.31	0.41	0.43	0.39	0.12	0.36	0.19	0.34	0.26	0.49
G-15	Drive School Bus	0.29	0.33	0.00	0.10	0.29	0.10	0.70	0.00	0.33	0.28	0.13	0.45	0.38	0.25
C-20	Employ the Team-Teaching Approach	0.25	0.27	0.00	0.20	0.22	0.20	0.19	0.80	0.38	0.23	0.36	0.17	0.17	0.23
A-2	Conduct a Community Survey	0.21	0.23	0.27	0.00	0.22	0.00	0.19	0.40	0.44	0.18	0.16	0.36	0.09	0.10
C-29	Employ Programmed Instruction	0.19	0.23	0.00	0.00	0.23	0.00	0.00	0.32	0.14	0.20	0.12	0.14	0.00	0.37

TABLE 1 (Continued)

Task Number	Task Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
A-3	Report the Findings of a Community Survey	0.15	0.16	0.27	0.00	0.18	0.00	0.00	0.29	0.20	0.15	0.15	0.29	0.09	0.00
C-28	Present Information With Televised and Videotaped Materials	0.15	0.12	0.27	0.38	0.06**	0.20**	0.87**	0.32**	0.06	0.17	0.23	0.13	0.00	0.12
G-3	Develop Brochures to Promote Vocational Agriculture	0.15	0.18	0.00	0.00	0.12**	0.00**	0.00**	1.01**	0.18	0.15	0.24	0.12	0.00	0.13
A-1	Prepare for a Formal Community Survey	0.13	0.13	0.27	0.00	0.12	0.00	0.14	0.40	0.26	0.11	0.11	0.25	0.09	0.00

*Significant at .05 level.

**Significant at .01 level.

APPENDIX B

MEAN PERCENT RELATIVE TIME SPENT ON DUTIES BY 50 NEW MEXICO VOCATIONAL AGRICULTURE TEACHERS IN 1977 GROUPED ACCORDING TO LEADERSHIP RESPONSIBILITY, SUBJECT MATTER RESPONSIBILITY, SUPERIOR TEACHERS VERSUS ALL OTHER TEACHERS, AND CROP REPORTING DISTRICT

TABLE 2

MEAN PERCENT RELATIVE TIME SPENT ON DUTIES BY 50 NEW MEXICO VOCATIONAL AGRICULTURE TEACHERS IN 1977 GROUPED ACCORDING TO LEADERSHIP RESPONSIBILITY, SUBJECT MATTER RESPONSIBILITY, SUPERIOR TEACHERS VERSUS ALL OTHER TEACHERS, AND CROP REPORTING DISTRICT

Duty Number	Duty Name	Mean Percent Relative Time Spent													
		50 Teachers	Leadership Responsibility			Subject Matter Responsibility				6 Superior Teachers	44 Other Teachers	Crop Reporting District			
			Head Teacher	Lead Teacher	2nd, 3rd or 4th Teacher	Prod. Agri.	Hort.	Agri. Mech.	Other			North-west	North-east	South-west	South-east
C	Instructional Execution	25.70	25.25	29.97	26.89	25.39	28.21	23.72	28.02	25.33	25.75	27.37	24.08	24.79	25.94
E	Instructional Management	12.00	12.47*	8.21*	10.31*	12.22	10.88	13.08	9.61	9.86*	12.29*	11.12	12.60	12.19	12.23
H	FFA Chapter Activities	11.32	11.34	10.85	11.41	11.50	11.57	10.78	9.31	13.36*	11.04*	10.62	11.34	12.11	11.91
G	School-Community Relations	10.49	10.55	12.60	8.71	10.48	9.91	11.30	10.40	9.00	10.69	10.61	10.30	11.21	10.42
A	Program Planning, Development, and Evaluation	9.88	10.03	9.11	9.02	9.99	8.25	9.57	11.61	10.03	9.86	10.25	10.55	10.24	8.56
J	Supervised Occupational Experience Program (SOEP)	7.73	7.75	5.45	8.97	7.94	6.57	7.55	7.29	9.72*	7.46*	6.98	8.06	8.20	8.10
B	Instructional Planning	6.65	6.55	7.50	7.03	6.51	7.58	7.06	6.32	6.21	6.71	6.64	6.58	7.33	6.61
D	Instructional Evaluation	6.16	6.04	5.50	7.57	5.95	6.45	7.32	6.79	5.52	6.25	6.53	6.27	5.05	5.84
I	Professional Role and Development	5.72	5.86	5.15	4.95	5.76	5.97	5.02	5.84	6.83*	5.57*	5.09	6.01	5.33	6.18
F	Guidance	4.36	4.17*	5.66*	5.15*	4.26	4.62	4.59	4.81	4.13	4.39	4.20	4.10	3.55	4.21

*Significant at .05 level.